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Abstract

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THE STUDENT RESEARCH PROGRAM

("THESIS PROJECT")

AT PACIFIC UNIVERSITY COLLEGE OF OPTOMETRY –

IS IT MEETING ITS STATED GOALS?

By

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Biography Page

Lance Henderson was raised in Southern Idaho (Dayton). He graduated with a liberal arts degree from Utah State University, in Logan. After graduation from Pacific, he hopes to return to Southern Idaho and practice full-scope optometry in a rural area. He is married to Misty Lee Henderson and has a son, Brennon.

Chris Jaron is originally from Portland, Oregon. He grew up in Juneau, Alaska, and hopes to return to practice within that state upon graduation form optometry school. He holds a B.S. in Visual Science from Pacific University. He intends to do a residency in Hospital Based Optometry after graduation.

Golden Smith graduated from Idaho State University in 1995 with a B.S. in Zoology. He was born and raised in Southeast Idaho, and would like to return to that area and establish an optometric practice. He has a beautiful family of four.

Jeff Gibbons graduated with honors from Brigham Young University with a B.S. in Biology. He will practice optometry in the U.S. Air Force for at least three years to repay a scholarship commitment. Ultimately, Jeff would like to own a private practice in the west. His professional interests are in primary care, contact lenses, and hospital-based optometry.

Rob Johnson graduated with a B.A. in Communication Studies from Brigham Young University. He is originally from Medford, Oregon and hopes to practice optometry in his home state. He is married and currently has one daughter.

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Abstract

The purpose of this thesis was to determine if the current Pacific University College of Optometry student research program (thesis project) was meeting its faculty-set goals. A 13-question survey was designed and mailed to 322 practitioners from four different graduating classes of Pacific University College of Optometry. From the 161 completed and returned surveys, the results were tabulated and compared to the above mentioned goals. Of the six goals, one goal is being met, two goals are not, and two goals showed a split opinion on whether it was being achieved or not. One goal was not addressed in this paper.

Introduction

What does a professional need to know? Professional educators are constantly asking themselves this question, for in its answer lies the information they need to determine how to guide today's students. It has always been the goal of Pacific University's College of Optometry to provide its students with the best possible education, especially amidst the continuous changes occurring in the profession. With optometry's expanding scope, there is a growing demand on optometric physicians to have a broader knowledge base. Today's optometrists are required to be more proficient in areas such as endocrinology, biochemistry, general microbiology, clinical medicine, immunology, pharmacology and disease; areas that, twenty years ago, were not as emphasized among most optometric educational programs.[1] As society seeks efficiency in health care, the scope of optometry has expanded to make the optometric physician a full-scope vision/eye care provider.

For this reason, schools and colleges of optometry across the country have been forced to face a dilemma: how to adjust the curricula in order to prepare graduates to function as primary care doctors, and yet not overburden the students with too much course work and information. As stated by Rousseau and Shiroma in their article describing curricula, "With the expanding scope of optometric practice, increasing pressures are mounting on the optometric educational institutions to expand their didactic and clinical curriculum to meet the educational needs associated with the expanding scope of care."[2] It took four years to graduate with a Doctor of Optometry (O.D.) degree in 1977. A 1997 student also graduates in a four year period, but now with additional

curricular emphasis in such areas as glaucoma treatment, cataract and refractive surgery co-management, and systemic diseases and pharmacology.[3]

A review of the core courses required for graduation at Pacific University shows a gradual increase in the number of credits, including additional credits in medical areas of optometry, as can be seen in the following table.[4]

Table 1

Graduating Class Year	Total Credit Hours Required for Graduation	Total Medical Credit Hours (Pharmacology, Systemic and Ocular Disease)
1974-75	135	12
1983-85	135	14
1989-90	143	16
1997-98	170.5	19

When the major movements to expand optometry's scope began in the mid-eighties, the optometric schools were well aware that changes in the curricula had to be made to allow enough time for students to learn all that was necessary to function as a successful practitioner.[5] One of the possible changes considered was a reduction in the number of visual/ophthalmic courses required, to make room for the substantial additions being mandated by the expanding medical scope of optometry.[5] Consideration was also given to consolidating material from several courses which overlapped in content and instruction, into fewer courses.[5]

Some felt this added emphasis in the biological sciences should not come at the expense of content in the optical and visual sciences, two traditional strengths of optometric education at many schools.[1] In 1992 the American Optometric Association (AOA) and the Association of Schools and Colleges of Optometry (ASCO) jointly

sponsored a "Summit on Optometric Education" conference series, known as the Georgetown Summit and Scope of Practice Conference. A result of these conferences was to declare that the scope of the profession, and therefore education, should expand rather than shift curricular emphasis.[1] In addition, the commitment to maintaining a four-year professional curriculum was announced.[1] Thus, the changing and evolving scope of the optometric profession has brought about an increase in the number of topics studied by optometry students at all schools, as well as a greater course load (average credits per term) for many of the colleges.[1,3,4,5]

Despite the changes that have occurred in their curriculum, six schools and colleges of optometry have maintained a requirement that each student prepare a thesis project, sometimes referred to as an "independent research project," in order to graduate with the Doctor of Optometry (O.D.) degree.[6] Pacific University College of Optometry is one of these six schools. The remaining eleven schools and colleges of optometry in the United States and Puerto Rico, do not require a thesis project, but offer the option of preparing a thesis to those students pursuing a Master's Degree in one of the advanced optometry fields, such as a M.S. in Clinical Optometry.[6] At three of these schools, the professors actively seek out the help of students, who then receive financial support or federally funded work-study money for their participation in the professor's thesis/research project.[6]

The preparation of a thesis has historically been associated with graduate level study. A graduate student "is expected to show a high and constantly increasing degree of intellectual independence; furthermore, the quality of the thesis which the student produces is one of the best measures of the degree of intellectual independence which the

student has attained."[7] A thesis is also intended to be a powerful educational tool. "The preparation of the thesis is calculated to give the student intensive and scholarly training in the collection, the organization, and the presentation of material."[7] Preparing a thesis is typically a very time consuming task.[7] If a thesis is published it can help others to learn as well as begin to establish the reputation of the student(s) who prepared it.[8] A thesis requirement can also affect the reputation of the institution that mandates it.[9]

It has also been proposed that the requirement of a thesis program is important to optometry as a profession and the advancement of health care.[9] The importance of research is strongly supported by several research-related requirements for the accreditation of schools of optometry. Furthermore, schools and colleges have traditionally been a primary source of this research. "Currently, forty-percent of health research is conducted by educational institutions."[10]

The importance of colleges of optometry being involved in research is emphasized in the Council on Optometric Education's accreditation manual. As stated in Standard VI, section 4.8, "The school or college must encourage research and scholarly activity which advances the profession, advances scientific knowledge, and stimulates creativity and improvement of instruction."[11] Standard VIII reiterates this by stating, "Research and scholarship must be an integral part of the mission of each optometric program."[11] The council does not state that research is a requirement of optometric students but does require the institutions to "encourage" and "support" the research option for its students.[11] This is specifically addressed in Standard VIII, section 8.2.

> The school or college must have an ongoing plan and mechanism to ensure continuance of the research mission of the program. The school or college of

> optometry should adopt and support a policy for faculty participation in research. Students should be encouraged to participate in research projects.[10]

The council also notes that time and resources allocated to curricular subjects must be consistent with the goals of the program. This is pointed out in Standard VI, section 6.1, "The optometric curriculum must be consistent with the mission statement of the school or college."[11] Pacific University, in keeping with the council's requirement listed in Standard VI, must have a curriculum that prepares students to become competent to practice entry-level optometry.[11]

Because the optometric program has become longer, it is essential to examine the goals of each institution's instructional program and the efficiency with which each part of the curriculum helps meet those goals. Recently two optometrists wrote in *Optometric Education,*

> As curricula are restructured, the optometric educational institutions must maintain their focus on structuring the curriculum such that strong training is given in the areas which comprise the largest part of the daily practice of optometry. Concern arises that our schools are doing students a grave disservice by misrepresenting the daily practice of optometry.[2]

One of the original motivations for undertaking this project was a poignant sentiment amongst the students in the Class of 1998 that the mandatory thesis requirement was unnecessary and an unduly time-consuming activity which did not represent the daily practice of optometry. Recent curriculum changes caused the Class of 1998 to be the first to enter into a revised and more time-demanding class load. This curriculum included an additional clinical preceptorship (externship) during the fourth year, which necessitated the courses typically taken during the fourth year be moved up into the already busy first three years of class work. To do this, the students were

scheduled to take classes in the summer between their second and third professional years. In light of what eleven other optometry schools had done in making the research project an elective rather than a mandatory course, the Classes of 1998 and 1999 petitioned the faculty to have the thesis program made voluntary. This petition was denied, with the faculty at Pacific University reaffirming their belief in the importance of continuing the student research project as a requirement for graduation.

This thesis was designed to examine Pacific University College of Optometry's mandatory thesis requirement in the hope of providing information pertaining to its effectiveness as an educational tool. It was also designed to determine the degree to which the thesis program is meeting its published goals. The stated goals for the student research program are:

The student research program at Pacific University College of Optometry shall endeavor to:

1.) teach students to produce, read, and critically evaluate research literature.

2.) promote faculty development through faculty participation in the student projects.

3.) maintain and further enhance the status of Pacific University in the basic and clinical science communities.

4.) produce publications of value in the clinical and basic sciences.

5.) make possible the securing of awards for student research projects.

6.) prepare students for post-graduate, professional and academic community participation.[9]

Obtaining information about how well the program is meeting these goals will allow education administrators to insure that future optometry curricula are as efficient as possible in providing students with the necessary knowledge, in a limited amount of time.

Methods

A fourteen-question survey (see appendix) was formulated to specifically determine if the Pacific University College of Optometry (PUCO) thesis program was meeting its stated goals.[9] This survey was mailed to 322 PUCO graduates, to determine if these past students felt the goals were being met. Four different graduating classes were selected for our project. All optometrists graduating from Pacific in 1981, 1986, 1991, and 1994 were mailed a survey. Efforts were made to get a balanced response from both experienced practitioners and more recent graduates by surveying practitioners at varied points in their careers.

The addresses for the participants were obtained from the PUCO alumni directory. All participants were mailed a survey packet which contained: 1) a letter of introduction describing the purpose of the survey; 2) the survey, on which the doctors answered the questions directly; and 3) a stamped, self-addressed envelope to return the survey to the research group. To allow anonymity, the surveys did not contain nor ask for the practitioner's name. This survey packet is included in the appendix.

Questions 1-5, 10, 11, and 13 were based on a five-scale rating of "**Strongly Agree,**" "**Agree,**" "**Neutral,**" "**Disagree,**" or "**Strongly Disagree.**" This five-point rating scale was chosen because it allows a middle ground that does not force a person to

make a commitment if they do not have strong feelings one way or the other about the surveyed questions.[12]

Questions 6, 9b and 12 were based on a closed-ended model to elicit specific responses to the questions surveyed. These were not opinion questions but factual in nature.

Questions 7 and 9a were opinion questions rated on a scale specific to that question (9a's scale being similar to the earlier used five-scale rating).

Questions 7 and 8 asked for written information directly from the doctor. The group conducting this research felt that allowing the survey recipients to respond with their own ideas would allow for a greater view of their feelings on these two questions.

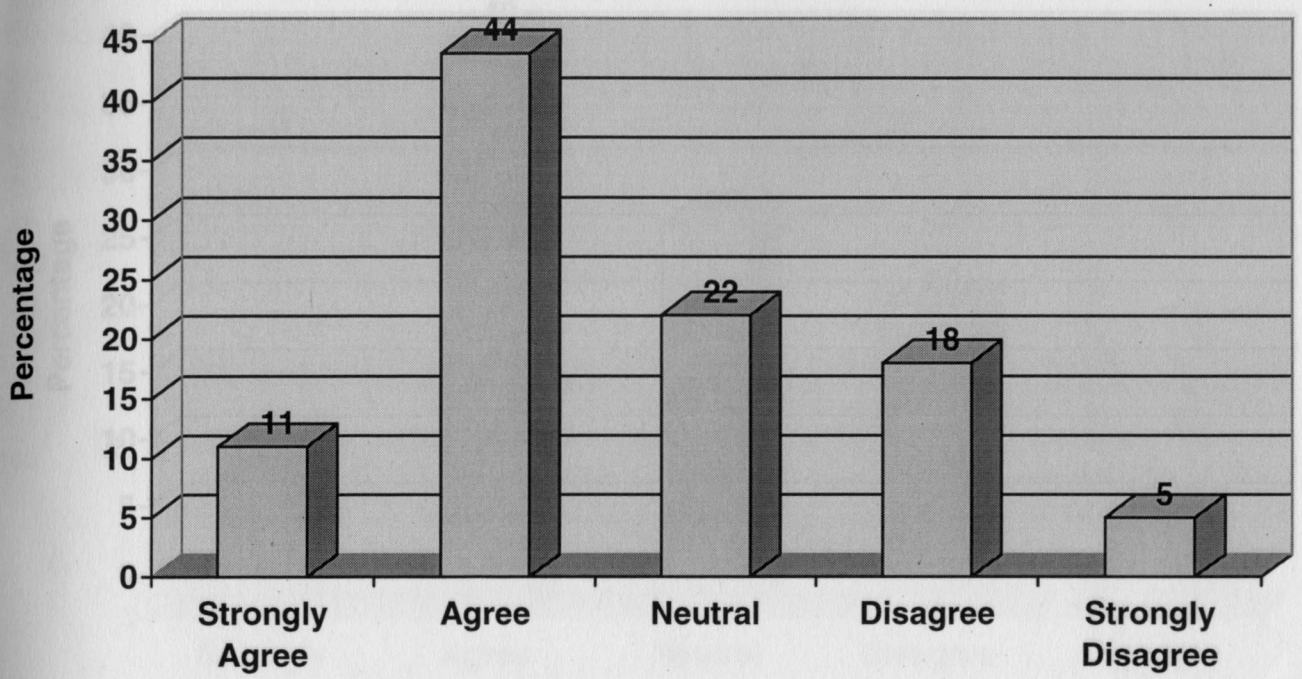
The returned surveys were tabulated with closed-ended questions being calculated in percentages and the open-ended questions having the responses recorded directly.

Results

Surveys sent out	322
Surveys returned	161
Response rate	50%

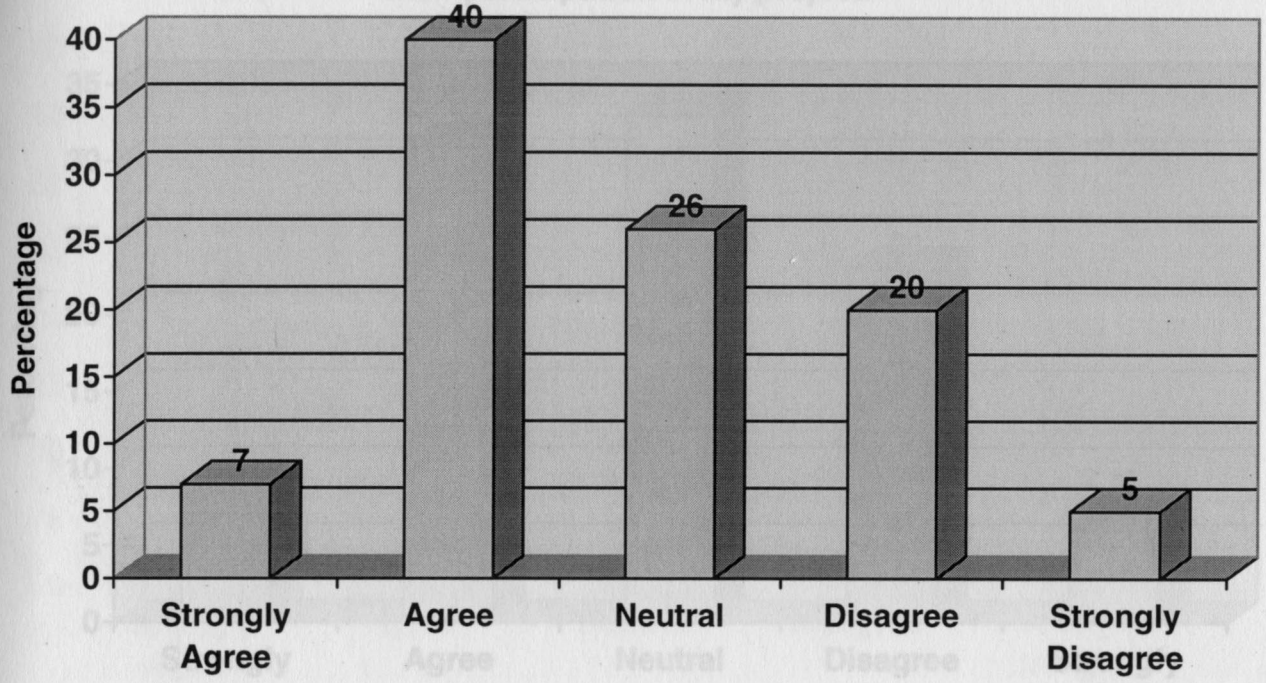
The following graphs represent the data from the multiple-choice questions (1-7, 9a-13). Question 8, which asked for an open-ended response, will be discussed following the multiple-choice questions.

Question #1 - My thesis project helped me to better read and critically analyze research literature.



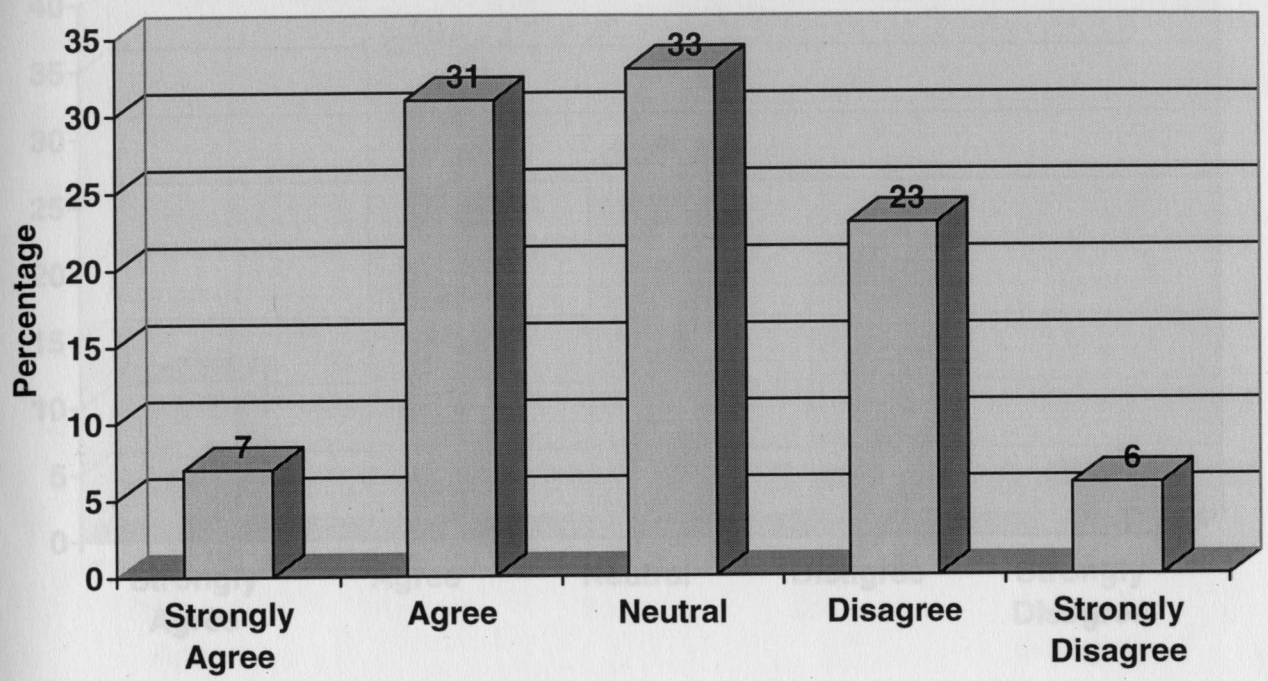
Question #	Str. Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	#
1	18	**11**	71	**44**	35	**22**	29	**18**	8	**5**	161

Question #2 - My thesis project enhanced my ability to produce research literature.



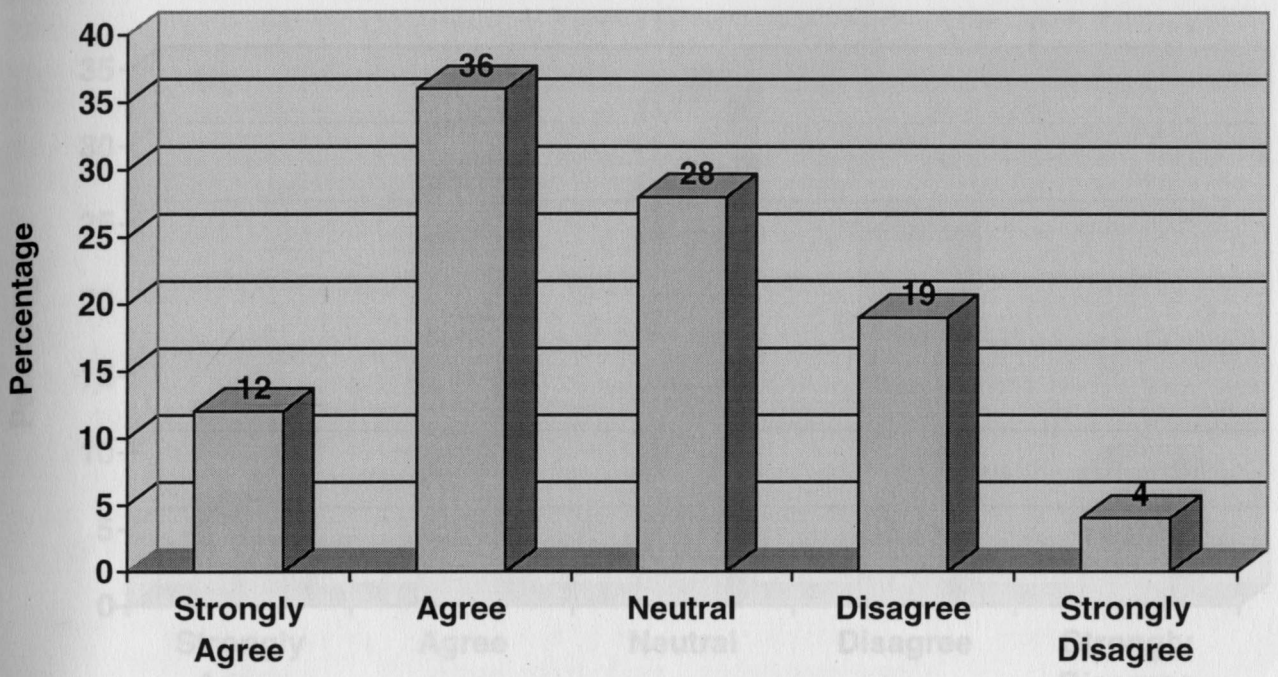
Question #	Str. Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	#
2	14	**7**	65	**40**	42	**26**	32	**20**	8	**5**	161

Question #3 - My thesis project promoted faculty development through their participation in my project.



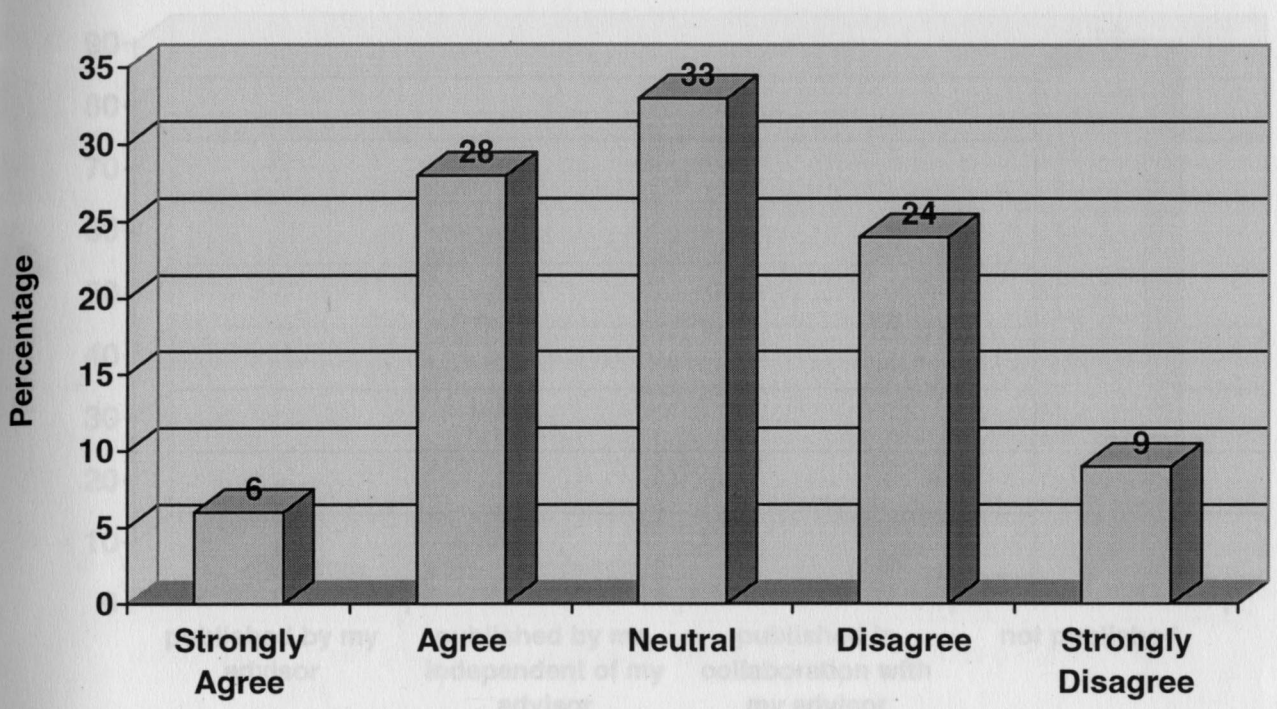
Question #	Str. Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	#
3	11	7	49	31	52	33	36	23	10	6	158

Question #4 - I developed a meaningful relationship with my advisor as a result of their participation in my project.

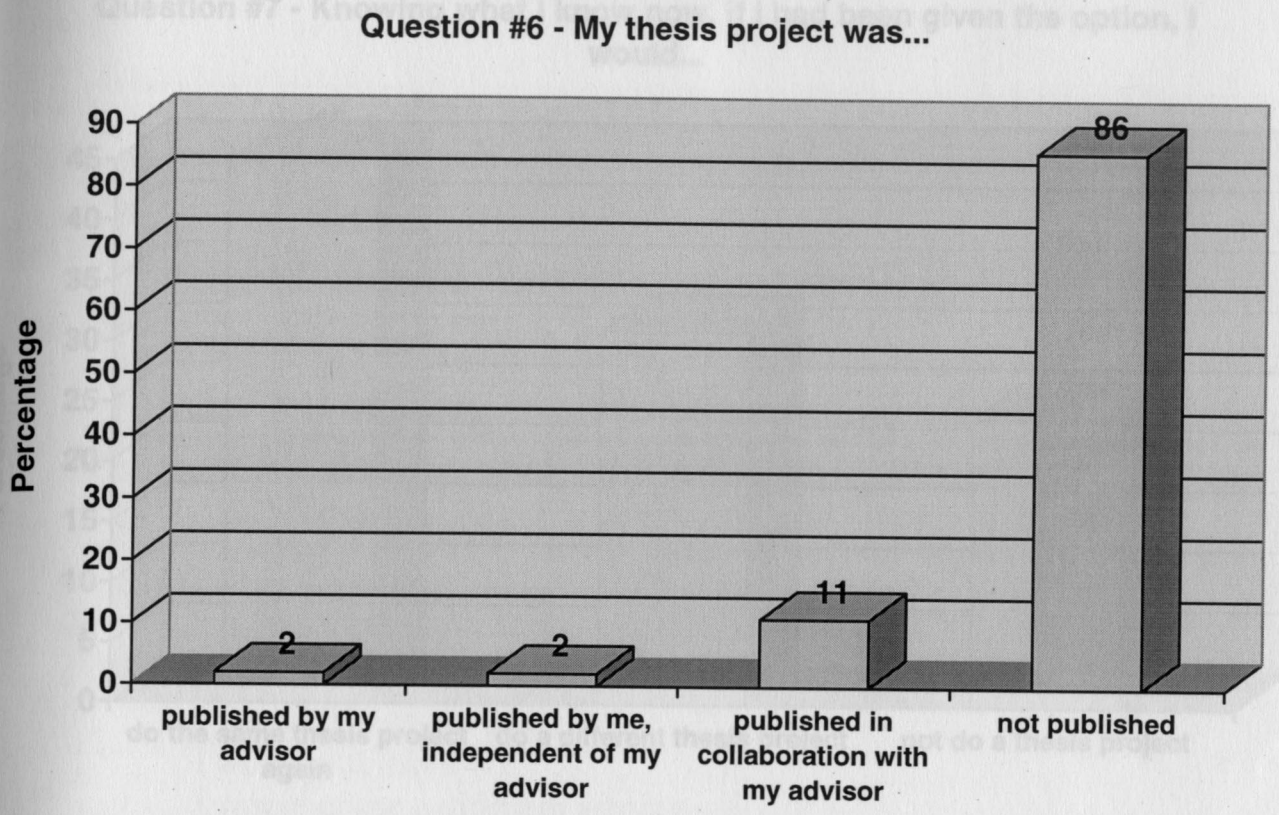


Question #	Str. Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	#
4	20	**12**	58	**36**	45	**28**	31	**19**	7	**4**	161

Question #5 - I feel my thesis project enhanced the status of Pacific University by contributing to basic and clinical science knowledge.

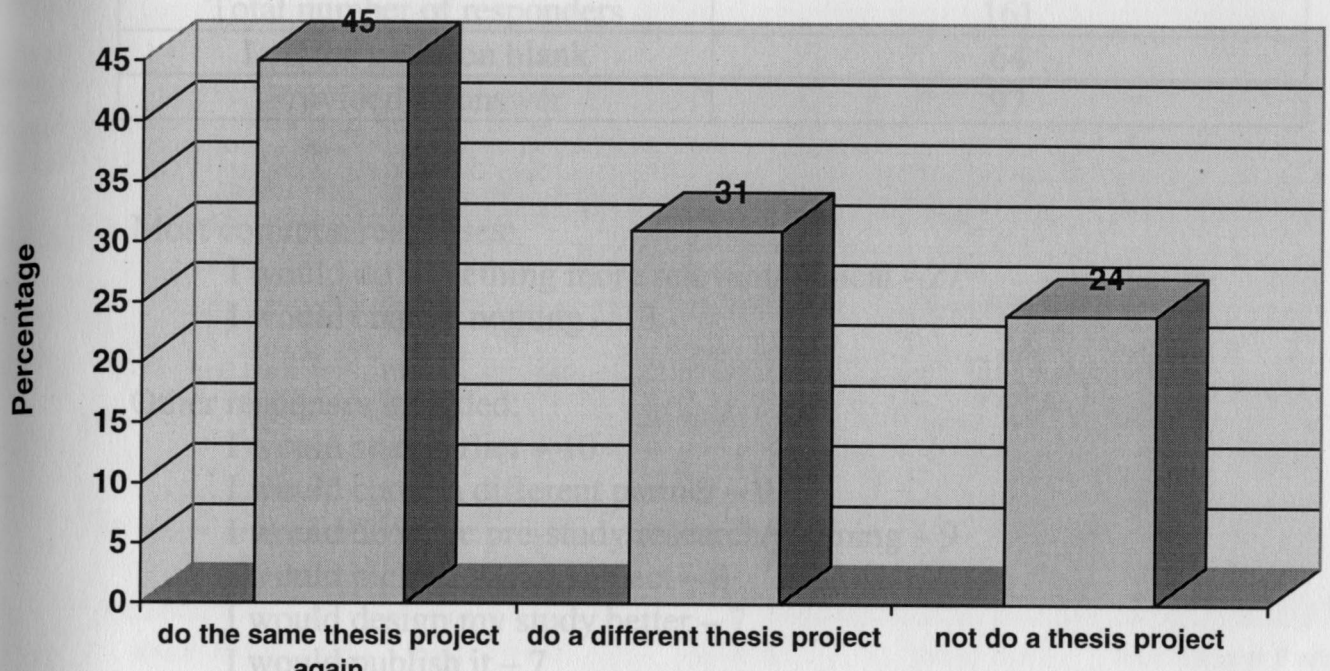


Question #	Str. Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	#
5	9	**6**	44	**28**	53	**33**	39	**24**	15	**9**	160



Question #	Published by my advisor	%	Published by me, independent of my advisor	%	Published in collaboration with my advisor	%	Not published	%
6	3	2	3	2	17	11	136	86

Question #7 - Knowing what I know now, if I had been given the option, I would...



Question #	Do the same thesis project	%	Do a different thesis project	%	Not do a thesis project	%
7	71	45	50	31	38	24

Question #8 - If I chose to do a thesis project again, I would do the following differently.

Total number of responders	161
Left the question blank	64
Provided an answer	97

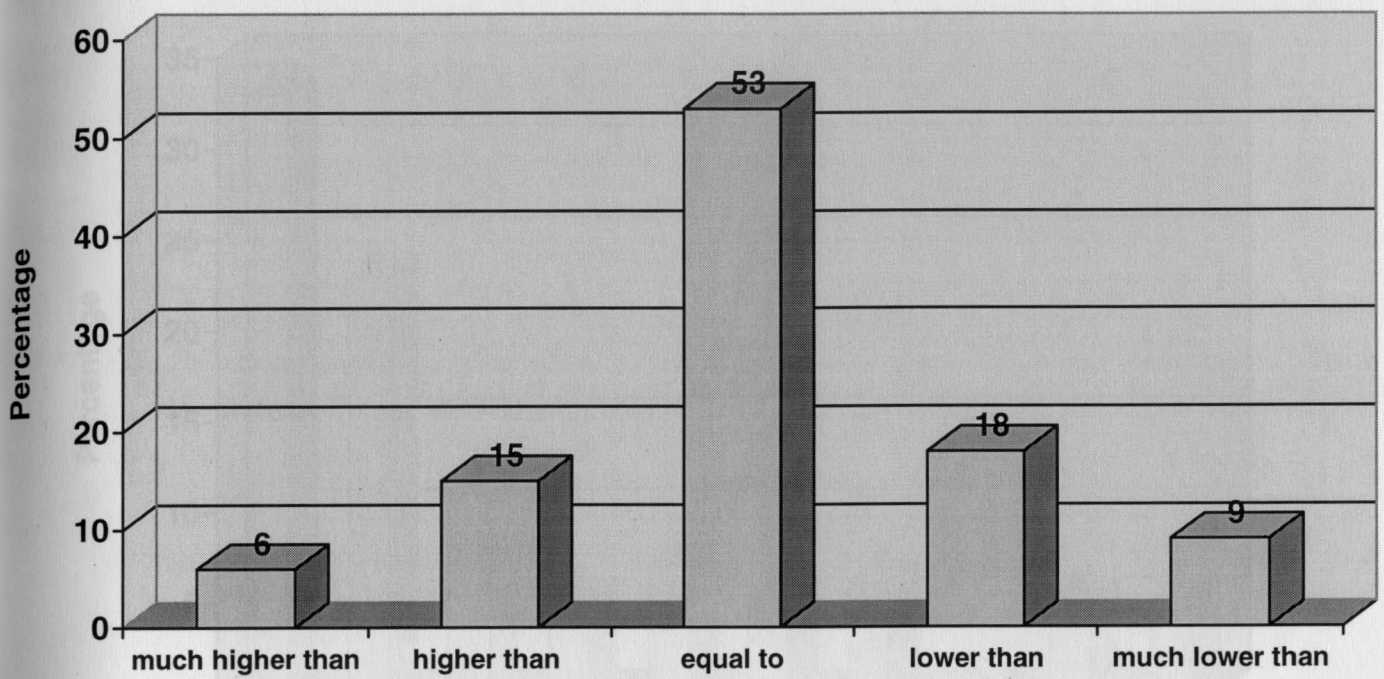
Most common responses:

I would do something more relevant/clinical - 27
I would change nothing – 13

Other responses included:

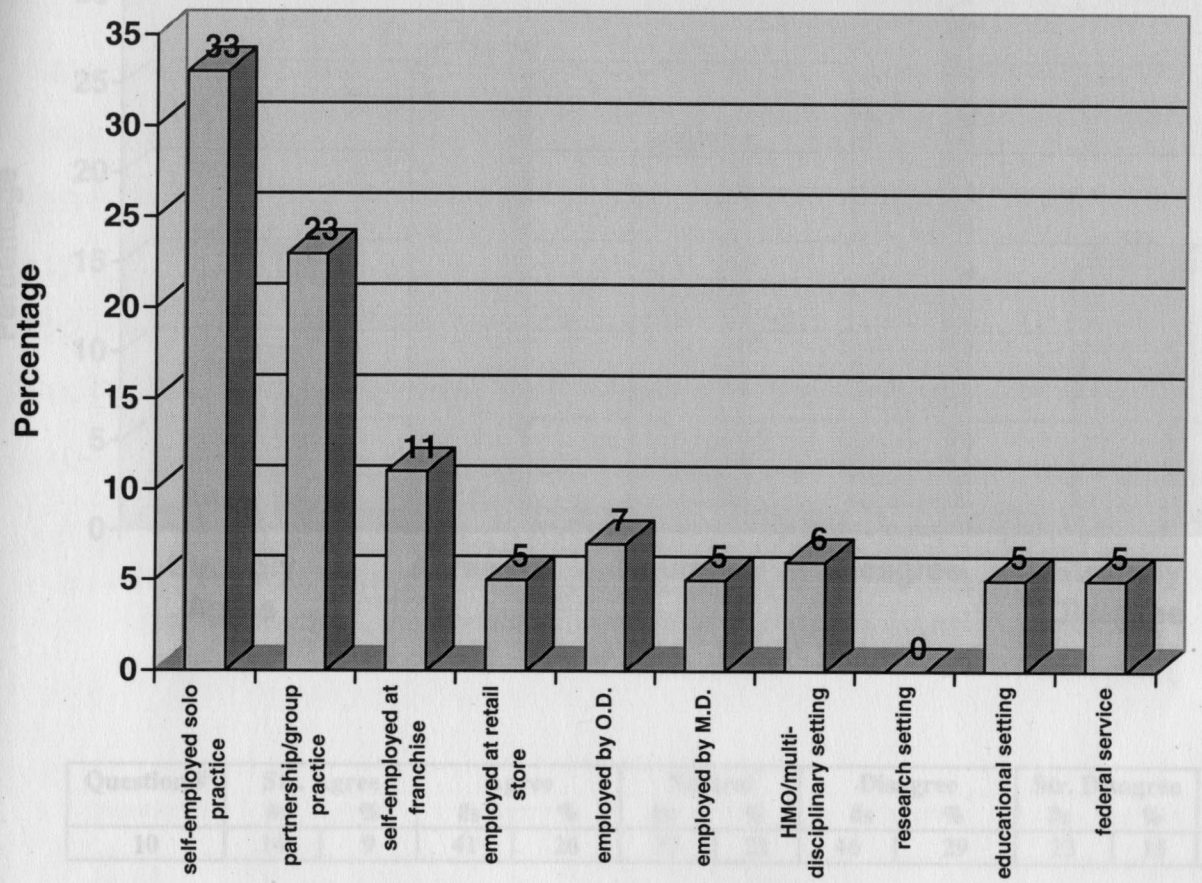
I would start earlier – 10
I would chose a different partner – 9
I would do more pre-study research/planning – 9
I would pick an easier subject – 8
I would design my study better – 7
I would publish it – 7
I would chose a different advisor – 6

Question #9a - For the amount of time I spent on my thesis project, the benefits I received were _____ what I expected.



Question #	much higher	%	higher	%	equal	%	lower	%	much lower	%	Total #
9a	9	**6**	24	**15**	83	**53**	28	**18**	14	**9**	158

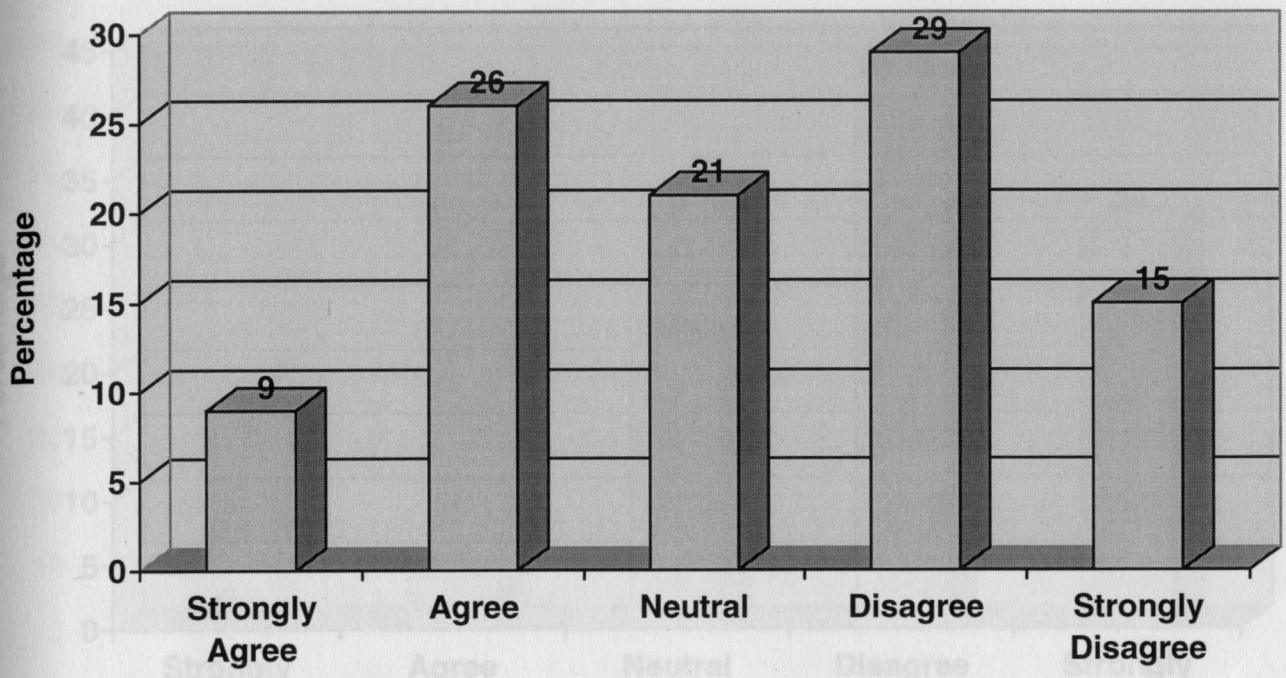
Question #9b -I practice in the following mode of optometry:



Ques.	a	b	c	d	e	f	g	h	i	j
9b	54	39	18	9	11	9	10	0	8	8

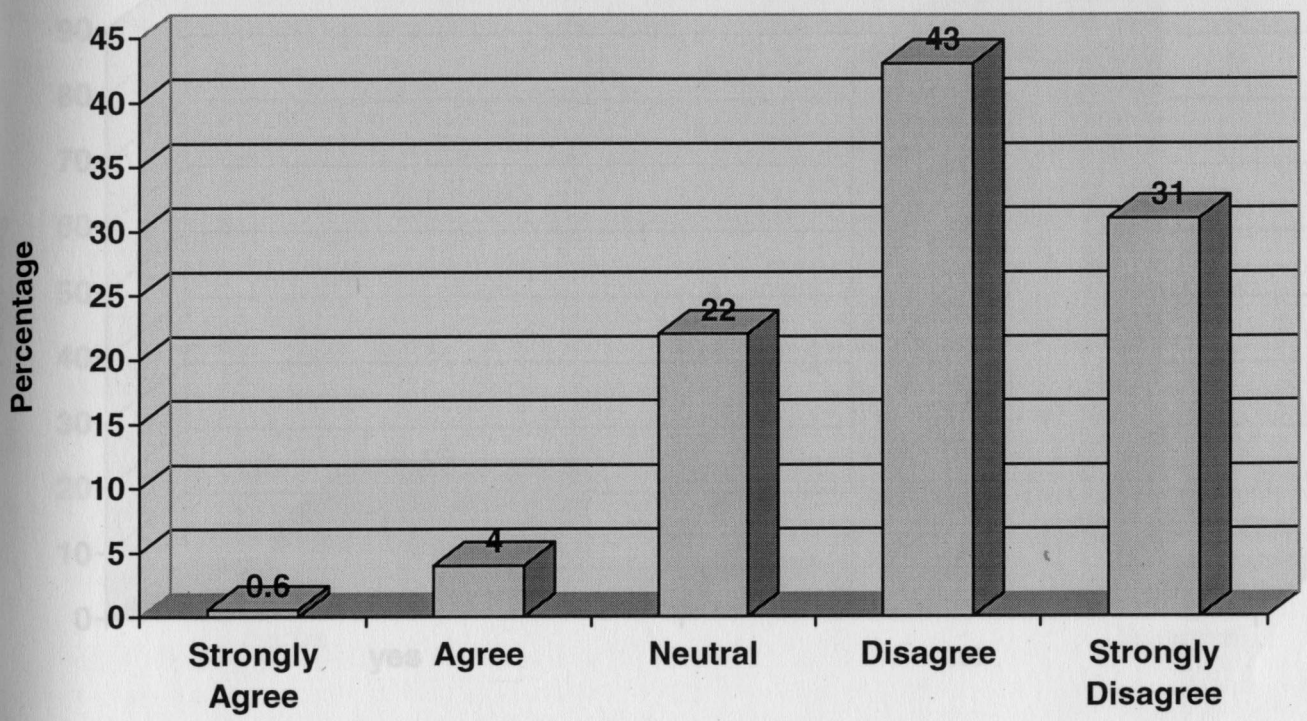
Notes: Above table represent raw numbers only. Chart is given in percentage. Total responses exceed total number of surveys returned as some practitioners marked more than one response due to practicing in multiple optometric positions (i.e.: corporate and private). Also, one response of "administrative."

Question #10 - My thesis project has been helpful in my current practice setting.

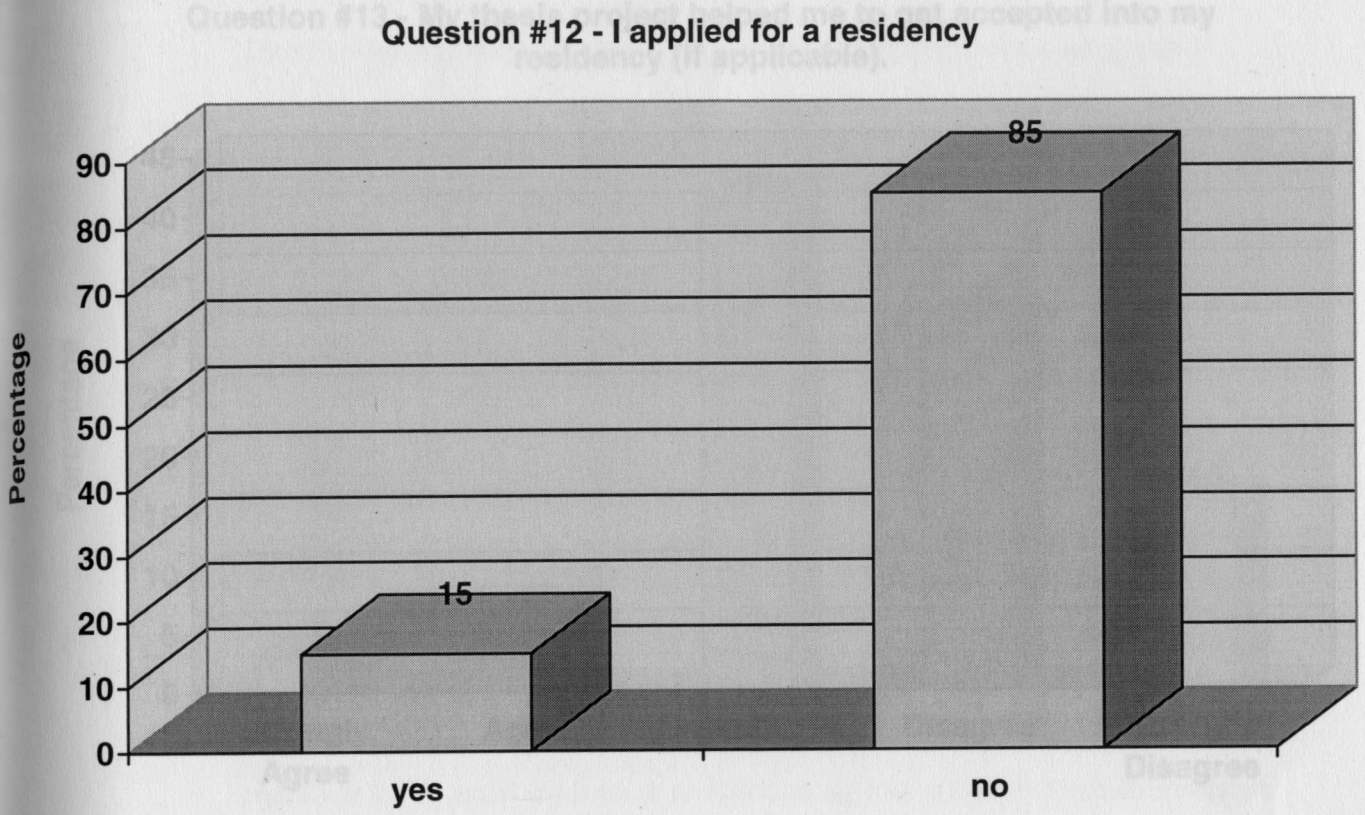


Question #	Str. Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	#
10	14	**9**	41	**26**	33	**21**	46	**29**	23	**15**	157

Question #11 - My thesis project influenced my choice of practice setting.

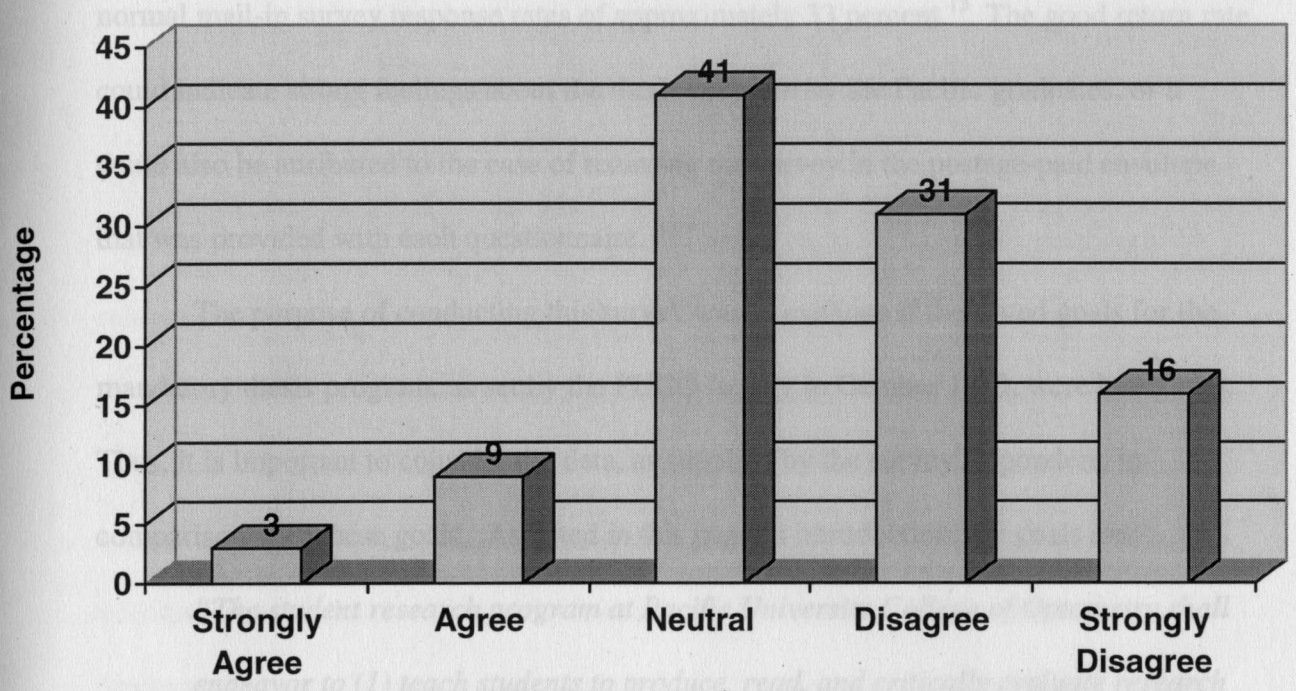


Question #	Str. Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	#
11	1	**0.6**	7	**4**	34	**22**	67	**43**	48	**31**	157



Question #	yes	%	no	%	Total #
12	24	15	134	85	158

Question #13 - My thesis project helped me to get accepted into my residency (if applicable).



Question #	Str. Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	#
13	1	**3**	3	**9**	13	**41**	10	**31**	5	**16**	32

Discussion

The fifty-percent response rate to the survey is quite high when compared to normal mail-in survey response rates of approximately 33 percent.[13] The good return rate could indicate strong feelings about the thesis program by the Pacific graduates, or it could also be attributed to the ease of returning the survey in the postage-paid envelope that was provided with each questionnaire.

The purpose of conducting this survey was to evaluate if the stated goals for the mandatory thesis program, as set by the PUCO faculty in October 1979, were being met. Thus, it is important to consider the data, as supplied by the survey responders, in comparison with these goals. As listed in this paper's introduction, the goals are:

> *"The student research program at Pacific University College of Optometry shall endeavor to (1) teach students to produce, read, and critically evaluate research literature."*

Survey items 1 and 2 were written to address this goal. It is these two questions that received the most favorable ratings. Question one addressed being able to "read and critically analyze research literature." Over half (55%) of the responders either agreed or strongly agreed with this item, while only 23% disagreed or strongly disagreed. Question number two dealt with being able to "produce research literature." Again, more responders were inclined to respond positively (47%) to this question than they were to respond negatively (25%). 26% remained neutral on this question. It seems apparent that goal number one is being met by the current thesis program – that students are able to produce, read, and critically analyze research literature due to their participation in a research/thesis activity.

"(2) promote faculty development through faculty participation in the student projects."

Survey items three and four addressed this goal. Question three asked if there was faculty development. There was a normal distribution of the responses: approximately a third (38%) agreeing with the statement, one third (33%) staying neutral, and a third disagreeing with it (29%). Question four asked if there were meaningful relationships that developed between faculty members and students as a result of having done a research project. 48% either agreed or strongly agreed with this item, while over half either remained neutral (28%) or disagreed (23%) in some form. Many responders included comments on how difficult it was for the faculty advisor to find time to meet with the students, or how the faculty member showed little interest in the student produced project. Due to the fairly even split in the responses, it is difficult to determine whether goal number two is being met.

"(3) maintain and further enhance the status of Pacific University in the basic and clinical science communities."

Survey question number five was devised to evaluate goal number three. Again we see a very normal distribution of thirds: one-third agreeing (34%), one-third neutral (33%), and one-third (33%) disagreeing. It is difficult to say if this goal is meeting its objective, for two-thirds of the responders either were unsure if the status of Pacific was enhanced by the project, or disagreed with the goal. Only one-third could honestly say they felt their research project led to the university being more highly esteemed.

"(4) produce publications of value in the clinical and basic sciences."

This goal is a rather easy one to address, for as survey item number six reveals, 86% of student research projects are never published. Reasons for why this may be are numerous and beyond the scope of this paper. However, one would hope, that a student research program, which is important and worthwhile as a mandatory graduation requirement, would produce worthwhile and publishable projects. Goal number four is not being met for some reason.

"(5) make possible the securing of awards for student research projects."

No survey question was written to address this goal. At the time the survey questions were being constructed, the authors thought it wise to not include a survey item regarding this goal. The authors were advised that the number of awards available to students from corporate sponsors had dramatically increased over the previous ten years. Most of the would-be responders were to come from classes that graduated in a time when few awards were available. Thus the results would not accurately reflect the current status of the program.

"(6) prepare students for post-graduate, professional, and academic community participation."

Survey questions 10 through 13 addressed this final goal. Question 10 asked if the project had been helpful in the responder's current practice setting. Most felt that it had not been, as shown by 44% either disagreeing or strongly disagreeing with this item. 35% agreed or strongly agreed and 21% remained neutral. Question 11 asked if the project influenced their choice of practice setting. Again most said no, with 74% disagreeing or strongly disagreeing, and 22% remaining neutral. Only 4% agreed in some manner with this question. 15% of the responders applied for a residency (question

number 12). Of these clinicians, most did not think their thesis project helped them get accepted into their residency (question number 13), with 47% either disagreeing or strongly disagreeing, 41% remaining neutral, and only 12% agreeing. It appears that goal number six, prepare students for post-Pacific professional participation, is also not being met by the current research program.

A quick summary of the goals and the results of the survey reveal the following: Goal one is being met, goals two and three were split in their results, and goals four and six are not being achieved. Goal five was not addressed with this paper.

While some of the survey items resulted in somewhat positive responses (questions one, two, and seven) and others showed somewhat negative feelings by the graduates (questions ten and eleven), no real significant consensus could be found amongst all of the responses. Most questions showed a somewhat normal bell-shaped curve when the data was plotted out.

Survey item 8 called for an open-ended response from the graduates. Only 97 of the 161 responders answered this question. Looking at the graduate's response to the previous question may provide a possible explanation as to why so many responders left this item blank. Item number 7 said, "Knowing what I know now, if I had been given the option, I would do a different/same/not do a thesis project." Of the 64 graduates who left item 8 blank, 33 would do the same thesis project, 14 would do a different thesis project, and 16 would not do a thesis project. These responses help explain why someone would not provide an answer to survey item 8; the responder can provide no specific changes they would make in their thesis project due to their answer to number 7. The other 97 graduates who did provide an answer to number 8, also made a decision on question 7,

but they felt inclined to provide additional information as to how they would make the project different.

Several factors must be taken into consideration when interpreting the graduates' responses to the survey. One, a concerted effort was made to word the questions in a positive manner. Two, the time constraints and credit requirements of the current classes of students are significantly higher than those placed on students in the past. And three, once a person has finished a project, such as a thesis/research project, and put a significant amount of time and work into it, there is a natural tendency to try and remember the positive, especially with the passage of time. Each of these points will be further expanded below.

Due to the feelings of both students and faculty during the time this survey was conducted, the question makers thought it most prudent and wise to word the questions in a positive light, to try and avoid their personal bias. For example, question one was worded: "*My thesis project helped me to better read and critically analyze research literature*." The responder was then allowed to pick from "*strongly agree*," "*agree*," "*neutral*," etc. as possible answers. The writers could have asked the same question this way: "*My thesis project did not help me better read and critically analyze research literature*." The type of survey item writing used in this project tends to draw out more positive responses from responders, for only those with truly negative sentiments will go against the wording of the question and disagree with it.[12] For this reason, it is possible that some of the items may show an artificially more positive bias than was the actual responder sentiment.

The time constraints placed on the class conducting this survey are undoubtedly different than those faced by the students preceding them. The Class of 1997 had a much lighter course load than the current class.[4] A quick review of Table 1 can provide insight into the different loads faced by the Classes of 1994, 1991, 1986, and 1981.[4] The Class of 1998 had a revised curriculum that eliminated a summer vacation, added an additional off-campus preceptorship, and necessitated moving the fourth-year courses up into the first three years of class work. For this reason, one cannot infer that the responses of past classes will accurately reflect the sentiments of current and future students regarding the thesis requirement. Questions 7, 8, and 9 all need to be considered in light of the fact that they are being answered by students who did not participate in the current curriculum.[4]

One error the writers of this paper made was to not differentiate by class year the surveys being sent out. When the anonymous surveys were returned, there was no way to tell if a member of the Class of 1991 or 1981 filled it out. Had this been done, important information may have been gleaned to inform the writers if there was any trend to differing satisfaction levels or opinions regarding the thesis project depending on class year. It is possible, that all of the "strongly agree" and "agree" responses came from members of one class, while all of the "neutral" and lower responses came from the remaining classes.

There is a well-known phenomenon within the field of psychology known as "cognitive dissonance," which means that people will tend to change their opinions in order to justify their behaviors when inconsistencies exist between the two.[14] The classic studies in this field were put forth by Festinger and Carlsmith in the late 1950s.[15,16]

In addition, Festinger noted that "the more severe the initiation into a group, the more positive the attitude toward the group afterward."[16] Such is applicable in the case of this paper. It is quite possible that the positive opinions expressed by the graduated students, in regards to their thesis projects, may be attributable in some fashion to cognitive dissonance. These students have spent a lot of time, effort, and possibly money to finish their final graduation project. And while they may have bemoaned their fate all the time they worked on the project, to now criticize it and say it was not worthwhile would be to criticize themselves, to say they and what they have accomplished are not worthwhile. Cognitive dissonance says that an opinion must change – either the practitioner sees herself as incompetent or she thinks the research project was not such a bad experience after all.

Some data which may support this is found when comparing the results of a phone survey conducted in the winter of 1996. The Classes of 1996 and 1997 were surveyed in regards to their opinion of the thesis project they were currently conducting. 57.4% of the students from these two classes were reached. Of these students, only 39.6% felt the project "was beneficial," 32.3% felt it "taught them critical thinking," and 28.7% would "do it again if given the option." Contrast this with the opinions of the practitioners who sent in their surveys for this project. Two possible explanations for the conflicting results include; the population which was polled in the phone survey differed from those who returned the questionnaire, or some of the people polled on the phone may have felt uncomfortable giving a true answer because they felt it conflicted with the surveyor's opinions.

The fact that a fairly even percentage both liked and disliked the research requirement may be evidence that the research project would make a better elective course than a graduation requirement. An elective research course would allow those students who are interested the opportunity to perform research, while not forcing those students who have no interest to conduct a project. Giving only the interested students the opportunity to conduct research would allow them more time and resources from the faculty as there would be fewer student groups with which to share their time. This might cause the quality of projects to improve, thus helping their chance of being published in a professional journal.

Conclusion

322 surveys were sent out to practitioners from four separate graduating classes at Pacific University College of Optometry. The questions addressed the faculty-set goals for the required student thesis/research project. From the 161 questionnaires that were returned, data was tabulated and compared to each goal. The first goal, teaching students to critically analyze and produce research literature was being met, according to the past-students' responses. Goals two and three (promoting faculty development and enhancing Pacific's status), showed a split among responders. Goals four and six (producing publications of clinical value and preparing students for professional participation), are not being met. Goal five (securing of awards) was not addressed in this survey.

Due to the expanding scope of optometry practice and enhanced emphasis on the medical aspects of eye care in the schools and colleges of optometry, the curricula have expanded. If the required thesis project is to remain a part of an already burdensome

course load, then faculty should reevaluate if it is meeting its intended goals. This paper will hopefully help faculty members and curricula decision makers in providing future optometrists with the most up-to-date and meaningful education possible.

PACIFIC UNIVERSITY

College of Optometry

FOREST GROVE, OREGON

November 8, 1996

Dr. <first name> <last name>
<street address>
<city>, <state> <zip>

Dear Dr. <last name>:

As a group of third-year optometry students at Pacific University, our thesis project is to evaluate the effectiveness of the student thesis program at the College of Optometry in meeting its stated objectives.

We are interested in determining how you, as an experienced practitioner, feel your thesis project helped you. As part of this project, we would appreciate if you would fill out the enclosed brief questionnaire, which is based on the thesis program's objectives, and return it in the enclosed stamped addressed envelope by December 15, 1996.

Please be aware that this is an anonymous survey and your name is not requested on the question sheet. All returned question forms will be confidential. Responses will be used only for gathering data and statistical analysis.

Feel free to contact us with any questions or additional comments you may have at (503) 357-5559 (Lance Henderson's home phone).

Sincerely,

Lance Henderson
Golden Smith
Chris Jaron
Jeff Gibbons
Rob Johnson

Pacific University
Class of 1998

Please circle the appropriate answer for each question below. Additional space is provided for some questions; feel free to attach an additional sheet of paper if more space is needed.

1) My thesis project helped me to better read and critically analyze research literature.

Strongly Agree **Agree** **Neutral** **Disagree** **Strongly Disagree**

2) My thesis project enhanced my ability to produce research literature.

Strongly Agree **Agree** **Neutral** **Disagree** **Strongly Disagree**

3) My thesis project promoted faculty development through their participation in my project.

Strongly Agree **Agree** **Neutral** **Disagree** **Strongly Disagree**

4) I developed a meaningful relationship with my advisor as a result of their participation in my project.

Strongly Agree **Agree** **Neutral** **Disagree** **Strongly Disagree**

5) I feel my thesis project enhanced the status of Pacific University by contributing to basic and clinical science knowledge.

Strongly Agree **Agree** **Neutral** **Disagree** **Strongly Disagree**

6) My thesis project was...

(a) published by my advisor.
(b) published by me, independent of my advisor.
(c) published in collaboration with my advisor.
(d) not published.

7) Knowing what I know now, if I had been given the option, I would...

(a) do the same thesis project again.
(b) do a different thesis project.
(c) not do a thesis project.

Why?_____

_____

_____

8) If I chose to do a thesis project again, I would do the following differently:_____

_____

_____

_____

9) For the amount of time I spent on my thesis project, the benefits I received were...

(a) much higher than what I expected.
(b) higher than what I expected.
(c) equal to what I expected.
(d) lower than what I expected.
(e) much lower than what I expected.

9) I practice in the following mode of optometry:

(a) self-employed solo practice
(b) partnership/group practice
(c) self-employed at a franchise
(d) employed at a retail store
(e) employed by another optometrist (O.D.)
(f) employed by a physician (M.D.)
(g) HMO/multi-disciplinary setting
(h) research setting
(i) educational setting
(j) federal service

10) My thesis project has been helpful in my current practice setting.

Strongly Agree **Agree** **Neutral** **Disagree** **Strongly Disagree**

11) My thesis project influenced my choice of practice setting.

Strongly Agree **Agree** **Neutral** **Disagree** **Strongly Disagree**

12) I applied for a residency. **Yes** **No**

13) My thesis project helped me to get accepted into my residency (if applicable).

Strongly Agree **Agree** **Neutral** **Disagree** **Strongly Disagree**

Table 2 – All Responses for All Survey Items

Question #	Strongly Agree		Agree		Neutral		Disagree		Str. Disagree		Total
	#s	%	#s	%	#s	%	#s	%	#s	%	
1	18	**11**	71	**44**	35	**22**	29	**18**	8	**5**	161
2	14	**7**	65	**40**	42	**26**	32	**20**	8	**5**	161
3	11	**7**	49	**31**	52	**33**	36	**23**	10	**6**	158
4	20	**12**	58	**36**	45	**28**	31	**19**	7	**4**	161
5	9	**6**	44	**28**	53	**33**	39	**24**	15	**9**	160
10	14	**9**	41	**26**	33	**21**	46	**29**	23	**15**	157
11	1	**0.6**	7	**4**	34	**22**	67	**43**	48	**31**	157
13	1	**3**	3	**9**	13	**41**	10	**31**	5	**16**	32

Question #	a	%	b	%	c	%	d	%	e	%	Total
6	3	**2**	3	**2**	17	**11**	136	**86**			159
7	71	**45**	50	**31**	38	**24**					159
9a	9	**6**	24	**15**	83	**53**	28	**18**	14	**9**	158

Ques.	a	b	c	d	e	f	g	h	i	j
9b	54	39	18	9	11	9	10	0	8	8

Notes: Total responses exceed total number of surveys returned as some practitioners marked more than one response due to practicing in multiple optometric positions (i.e.: corporate and private). Also, one response of "administrative".

Question #	yes	%	no	%	Total
12	24	**15**	134	**85**	158

Bibliography

1. Berman, Morris S., "Curriculum Model for Optometry - Outcomes of the Process," *Optometric Education*, vol. 20, no. 1, Fall 1994, p. 15.
2. Rousseau, Paul G., Shiroma, Lisa N., "U.S. Optometry Schools: A Curriculum Comparison," *Optometric Education*, vol. 17, no. 4, Summer 1992, p. 119.
3. "Academic Reform in the Optometric Biosciences." *Optometric Education*, vol. 16, no. 4, Summer 1991, p. 105-122.
4. Pacific University Catalogs and Bulletins, 1975 through 1997, published by Pacific University.
5. Berman, Morris S., "What Implication Does the Expanding Scope of Practice Have for the Curriculum at the Schools and Colleges of Optometry," *Optometric Education*, vol. 18, no. 1, Fall 1992, p. 18-19.
6. Personal telephone conversations conducted with AOSA Trustees or Trustee-Elects at the schools and colleges of optometry in the U.S. and Puerto Rico.
7. Reeder, Ward G., How to Write a Thesis, Public School Publishing Company, Bloominton, Illinois, 1930, p. v.
8. Lester, James D., Writing Research Papers, 2nd. Ed., Scott, Foreman, and Co., Glenview, IL, 1976, p. 1.
9. *Optometry Thesis Manual – Summer 1996*, from the courses Optometry 791 (Thesis Planning) and Optometry 892 (Thesis Completion), compiled by Robert L. Yolton, coordinator, College of Optometry Pacific University, p. 3. (goals originally adopted by faculty October, 1979).

10. Public Health and Community Optometry, 2nd Ed.; edited by Newcomb, Robert D., and Marshall, Edwin C., Butterworth, Boston, 1990, p. 85.

11. Accreditation Manual: Professional Optometric Degree Programs, adopted by the Council on Optometric Education, October 1-3, 1993.

12. Asking Questions: A Practical Guide to Questionnaire Design, Sudman, Seymour, and Bradburn, Norman N., Jossey-Bass Publishers, San Francisco, 1983.

13. Bleything, Willard, O.D., F.C.O.V.D., M.Ed., personal conversation conducted Spring 1997.

14. Burns, Alyson, Professor - Department of Psychology (undergraduate), Pacific University, Forest Grove, Oregon; personal e-mail message, dated October 20, 1997.

15. Festinger and Carlsmith, "Cogntive Consequences of Forced Compliance," *Journal of Abnormal and Social Psychology*, vo. 58, 1959, p. 203-210.

16. Festinger, Riecken, and Schachter, When Prophecy Fails, University of Minnesota Press, Minneapolis, MN, 1956.